

Twelfth Annual Report

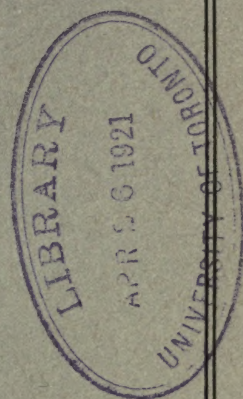
OF THE

Canadian Seed Growers' Association

FOR THE

YEAR ENDING MARCH 31,

1916



Part I.—Minutes of Annual Meeting.

Part II.—Addresses and Contributions.

OTTAWA

THE DADSON-MERRILL PRESS, LIMITED

1916.

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PREFATORY STATEMENT

REGARDING THE

CONSTITUTION, OBJECTS AND METHODS OF THE CANADIAN SEED GROWERS' ASSOCIATION.

The Constitution of the Canadian Seed Growers' Association together with the By-Laws and Regulations which govern its operations are printed in a special booklet, a copy of which is sent each member and applicant. Since copies of the Annual Reports—of which this is the twelfth—are sent to many persons who are not members and who may not know what the Association is or what it stands for, it is proposed to give here a brief description of its origin, objects and methods.

Origin of Canadian Seed Growers' Association.

The Canadian Seed Growers' Association is an outgrowth of the Macdonald Seed Grain Competition, which competition began in 1900 and continued for three years, extending over the entire Dominion and including about 1,500 competitors. The object of this Competition was to stimulate an interest in the growing of pure and productive seed throughout Canada and to demonstrate to the farmer the great practical advantages which may accrue from the use of such seed. At the close of the competition the Canadian Seed Growers' Association was organized, with a view to promoting, through organized effort, a continued interest in this question.

Organization.

The officers of the Association consist of a President, three Vice-Presidents, a Secretary and Treasurer, an Executive Council and a Board of Directors consisting of twenty members. Each province in Canada nominates a Director so that the work is entirely national in character and far reaching in influence.

Membership

The membership is composed of farmers who make the growing of seed a special branch of their farming operations, and who wish to have their seed registered in the Records of the Association at Ottawa in order that they may reap a fuller reward for their labors should they have a quantity of such seed to sell.

Aims.

The aim of the Association is to systematize the work of seed growing so that it may be made so simple and practical that a large number of farmers may become members and producers of high-class seed of known origin, quality and purity on their own farms from year to year. In this way is created a base of supply of pure seed which, in turn, is multiplied by members under the Association's inspection and control and made available for seed purposes to the buying public.

SYSTEM OF SEED GROWING

Choice of Variety.

The system of seed growing followed by members of the Association is briefly as follows:—

Having decided upon the crop or crops of which it is proposed to produce seed each year, the member is urged to choose with great care the variety with which to operate. If he is uncertain as to what variety will do best on his farm or which is most practicable for him to grow he is strongly advised to test two or three of the very best known sorts on duplicate plots for a couple of years. The great importance of this cannot be over-estimated, as no grower can afford to work with an inferior or unsuitable sort.

Procuring of Foundation Stock.

Having decided upon the variety, the next step is to secure the very best and purest 'Stock Seed' or Registered Seed of that variety. This or its progeny may often be obtained either from an experimental station or from another member who has been operating for a number of years and who has a supply of such seed on hand. Where a pure stock can be obtained in the beginning, the work of the new member is reduced immensely as his future concern consist chiefly in keeping the sort pure and in multiplying it under the inspection and direction of the Association. Where a pure foundation stock is not available the grower may proceed to produce such stock from the chosen variety. This is accomplished by operating each year a "hand-selected seed plot" from which is selected annually a sufficient quantity of typical heads, panicles, ears or pods to give enough clean seed to sow another plot the following year. This "hand-selected" seed is then *threshed by hand* and every precaution taken to keep it pure. In this way the member is able to have as a base of supply for pure seed each year a special seed plot which he can control in a way which is quite impossible where the crop of a large field has to be taken into consideration.

The seed plot on which is sown the Stock Seed of the chosen variety should not be smaller than $\frac{1}{4}$ acre, except in the case of potatoes, field roots and vegetable seed. The plot should be in a good state of cultivation, well drained, free from weed seeds and should be sown at the regular rate of seeding.

Multiplication of Stock Seed.

After the hand-selected seed has been taken the remaining product of the seed plot and which is known as Elite Stock Seed, may be carefully threshed and kept separate for multiplying on a special field (multiplying field) the following year.

Production of Registered Seed

Seed which is grown and handled by members in accordance with the regulations of the Association, and which is up to the required standard of purity, quality and vitality, may be registered in the Records of the Association as "Registered Seed" and certificates of registration may be issued for such quantities of this seed as may be offered for sale.

Seed Catalogue.

The Association issues a catalogue early each winter containing the names of those who are offering Registered Seed for sale, also the names of the sorts offered and the prices asked. In this way the grower and buyer are brought into communication with each other and a careful distribution of Registered Seed thus facilitated.

Advantages of Membership in the Association.

While any grower may apply the above system of seed growing on his farm independently of the Association, yet there are certain advantages from an affiliation with this organization which few growers can afford to ignore. Briefly speaking the Association is helpful in the following matters:—

1. It enables the grower to keep in touch with his fellow workers and thus to profit by the successes and failures of the latter.
2. It keeps him in touch with the best thought of the times in all matters pertaining to crop raising.
3. It fixes approximate standards of registration for pure-bred seed.
4. It makes a careful study of the results obtained by the different members as well as by professional investigators, and offers direction and guidance accordingly.
5. It keeps a record of all work done along these lines by members, and issues certificates of registration.
6. It assists members as far as possible in the disposal of their surplus stock of Registered seed at reasonable prices.
7. It gives publicity to the work of worthy growers who have succeeded in producing stock of real merit.

How to Become a Member.

Applications for membership in the Association should be addressed to the Secretary, Canadian Seed Growers' Association, Canadian Building, Ottawa. No membership fee is at present required neither is there any financial obligation incurred by any member until he applies to have seed which he is offering for sale inspected and sealed in sacks. At this time a small inspection fee will be charged.

CANADIAN SEED GROWERS' ASSOCIATION.

Head Office—Canadian Building, Ottawa, Ontario.

Officers, 1916-17.

President.—Dr. James W. Robertson, C.M.G., LL.D., Ottawa, Ont.

Vice-Presidents.—Prof. C. A. Zavitz, Guelph, Ont.; Prof. M. Cumming, Truro, N.S.;
Prof. James Murray, Macdonald College, P.Q.

Secretary and Treasurer.—L. H. Newman, B.S.A., Canadian Building, Ottawa, Ont.

Executive Council.—Dr. James W. Robertson, L. H. Newman, Prof. C. A. Zavitz,
Prof. T. J. Harrison, Agricultural College, Winnipeg, Man.; Prof. James Murray,
C. F. Bailey, Department of Agriculture, Toronto, Ont.; F. N. Savoie, Dept.
Agriculture, Quebec, P.Q.

Directors.—A. Austin, Kamloops, B.C.; Prof. John Bracken, Agricultural College,
Saskatoon, Sask.; C. F. Bailey, Dept. of Agriculture, Toronto, Ont.; R. H. Carter,
Fort Qu'Appelle, Sask.; H. A. Craig, Deputy Minister of Agriculture, Edmonton,
Alta.; Prof. M. Cumming, Agricultural College, Truro, N.S.; Geo. Dow, Gilbert
Plains, Man.; Prof. T. J. Harrison, Agricultural College, Winnipeg, Man.;
Dr. R. B. Hagerman, East Florenceville, N.B.; E. A. Howes, Edmonton, Alta.;
Prof. James Murray, Macdonald College, P.Q.; W. T. McDonald, Live Stock
Commissioner, Victoria, B.C.; W. L. MacFarlane, Fox Harbour, N.S.; William
H. McGregor, Miscouche, P.E.I.; William Palmer, Scotch Lake, N.B.; F. N.
Savoie, Department of Agriculture, Quebec, P.Q.; W. W. Thompson, Department
of Agriculture, Regina, Sask.; Prof. C. A. Zavitz, Guelph, Ont.

CANADIAN SEED GROWERS' ASSOCIATION.

LIST OF OPERATING MEMBERS, 1915-16.

The following list gives the names and addresses of those from whom reports were received for 1915, together with the kinds and varieties of crops with which they are operating, and the number of years the seed is known to have been selected:—

WHEAT.

Alberta.

Anderson, Anton, Hand Hills, Sec. 19, Tp. 29, R. 16, W. 4th Mer.; Marquis, 3 years.
Bentley, R., Claresholm, Sec. 26, Tp. 12, R. 27, W. 4th Mer.; Marquis, 2 years.
Blackwood, Alex. S., De Winton, Sec. 24, Tp. 21, R. 29, W. 4th Mer.; Marquis, 3 years.
Burdge, Edward, Berry Creek, Sec. 36, Tp. 28, R. 12, W. 4th Mer.; Marquis, 3 years.
Gould, W. H., Islay, Sec. 20, Tp. 51, R. 40, W. 4th Mer.; Marquis, 1 year.
Grenville, Sydney, Sarcee Butte, Sec. 31, Tp. 30, R. 21, W. 4th Mer.; Marquis.
Hess, W. H., Oyen, Sec. 6, Tp. 23, R. 4, W. 4th Mer.; Marquis, 3 years.
Lougheed A., Bowden, Sec. 23, Tp. 34, R. 1, W. 5th Mer.; Marquis, 2 years.
McAllister, R., Taber, Sec. 20, Tp. 13, R. 17, W. 4th Mer.; Red Fife, 11 years.
MacArthur, Max, New Bridgen, Sec. 34, Tp. 31, R. 4, W. 4th Mer.; Marquis, 2 years.
Newsham, Jackson, Innisfail, Sec. 21, Tp. 35, R. 28, W. 4th Mer.; Marquis, 3 years.
Nicholls, S. S., Three Hills, Sec. 36, Tp. 31, R. 24, W. 4th Mer.; Marquis, 5 years.
Perry, A. D., Talbot, Sec. 6, Tp. 38, R. 9, W. 4th Mer., Marquis, 4 years.
Prothero, H. G., Irma, Sec. 14, Tp. 47, R. 8, W. 4th Mer.; Marquis, 2 years.
Rollis, Rufus, Three Hills, Sec. 25, Tp. 31, R. 25, W. 4th Mer.; Red Fife, 9 years.
Rollis, Rufus, Three Hills, Sec. 25, Tp. 31, R. 25, W. 4th Mer.; Marquis, 3 years.

Saskatchewan.

Angus McKay Farm Seed Co., Indian Head, Sec. 24, Tp. 18, R. 13, W. 2nd Mer.; Marquis, 3 years.
Banting, Ben L., Richlea, Sec. 4, Tp. 26, R. 19, W. 3rd Mer.; Marquis, 1 year.
Butler, Lyall W., Kelfield, Sec. 27, Tp. 34, R. 19, W. 3rd Mer.; Marquis.
Borts, Israel, Eyre, Sec. 28, Tp. 26, R. 28, W. 3rd Mer., Marquis.
Bryan, A. H., Bridgeford, Sec. 7, Tp. 23, R. 3, W. 3rd Mer.; Marquis, 3 years.
Carter, R. H., Fort Qu'Appelle, Sec. 17, Tp. 21, R. 14, W. 2nd Mer.; Marquis, 3 years.
Carter, R. H., Fort Qu'Appelle, Sec. 17, Tp. 21, R. 14, W. 2nd Mer.; Red Fife, 7 years.
Coupland, Jno. W., Palmer, Sec. 15, Tp. 12, R. 3, W. 3rd Mer.; Marquis, 3 years.
Currie, Donald, Vanguard, Sec. 29, Tp. 17, R. 24, W. 3rd Mer.; Red Fife, 4 years.
Cottrill, Jas. F., Simpson, Sec. 19, Tp. 29, R. 27, W. 2nd Mer.; Marquis, 3 years.
Clark, Robert, Speers, Sec. 32, Tp. 43, R. 11, W. 3rd Mer.; Marquis.
Clark, Robert, Speers, Sec. 32, Tp. 43, R. 11, W. 3rd Mer.; Prelude, 4 years.
Cummings, W. J., St. Boswells, Sec. 16, Tp. 12, R. 7, W. 3rd Mer.; Marquis.
Dash, F. J., Hillesden, Sec. 22, Tp. 15, R. 6, W. 2nd Mer.; Marquis, 5 years.
Dunn, G. H., Kindersley, Sec. 10, Tp. 26, R. 23, W. 3rd Mer.; Marquis, 3 years.
Ellett, Jesse R., Lanigan, Sec. 21, Tp. 35, R. 22, W. 2nd Mer.; Marquis, 1 year.
Fields, J. S., Regina, Sec. 14, Tp. 18, R. 20, W. 2nd Mer.; Marquis, 2 years.

Fitzgerald, G. D., Grenfell, Sec. 8, Tp. 17, R. 7, W. 2nd Mer.; Marquis, 2 years.
 Floyd, M. P., Marshal, Sec. 10, Tp. 48, R. 27, W. 3rd Mer.; Marquis, 3 years.
 Genge, C., Kindersley, Sec. 27, Tp. 9, R. 27, W. 2nd Mer.; Marquis, 5 years.
 Gerlach, Paul, Allan, Sec. 28, Tp. 32, R. 1, W. 3rd Mer.; Marquis, 4 years.
 Goldney-Cary, F. C., Dysart, Sec. 9, Tp. 23, R. 15, W. 2nd Mer.; Marquis, 1 year.
 Hailes, Fred B., Kindersley, Sec. 10, Tp. 29, R. 23, W. 3rd Mer.; Marquis, 2 years.
 Hancox, Avery, Kindersley, Sec. 36, Tp. 25, R. 24, W. 3rd Mer.; Marquis, 2 years.
 Hill, Shirley, Carnduff, Sec. 35, Tp. 2, R. 33, W.P.M.; Marquis, 2 years.
 Howard Brothers, Forest Farm, Sec. 30, Tp. 17, R. 1, W. 2nd Mer.; White Fife.
 Isaac, J. L., Aberdeen, Sec. 14, Tp. 39, R. 3, W. 3rd Mer.; Red Fife, 7 years.
 Johnson, R. M., Pasqua, Sec. 28, Tp. 16, R. 25, W. 2nd Mer.; Marquis, 5 years.
 King, Chas. W., Bog End, Sec. 14, Tp. 35, R. 20, W. 2nd Mer.; Marquis, 2 years.
 Lintott, Chas., Raymore, Sec. 18, Tp. 28, R. 18, W. 2nd Mer.; Marquis, 6 years.
 Lintott, Geo. H., Raymore, Sec. 1, Tp. 28, R. 19, W. 2nd Mer.; Marquis, 6 years.
 Matthews, Ed., Halcyonia, Sec. 14, Tp. 40, R. 8, W. 3rd Mer.; Marquis, 1 year.
 Myres, E. W., Truax, Sec. 16, Tp. 11, R. 22, W. 2nd Mer.; Marquis, 4 years.
 Pain, Wm., Howell, Sec. 14, Tp. 38, R. 28, W. 2nd Mer.; Marquis, 4 years.
 Ramsay, W. L., Bladworth, Sec. 2, Tp. 27, R. 1, W. 3rd Mer.; Marquis, 6 years.
 Rowbottom, F. E. K., Fartown, Sec. 2, Tp. 48, R. 27, W. 3rd Mer.; Red Fife, 6 years.
 Richter, Armin, Alford, Sec. 20, Tp. 25, R. 12, W. 3rd Mer.; Marquis, 3 years.
 Ramsden, Geo. H., Coteau, Sec. 36, Tp. 23, R. 15, W. 3rd Mer.; Marquis, 1 year.
 Seagrave, R. W., Rosetown, Sec. 16, Tp. 30, R. 15, W. 3rd Mer.; Marquis, 4 years.
 Seemans, W. T., Theodore, Sec. 15, Tp. 28, R. 7, W. 2nd Mer.; Marquis, 2 years.
 Simpson, Wm. S., Glenbryan, Sec. 9, Tp. 11, R. 11, W. 3rd Mer.; Marquis, 4 years.
 Talbot, Martin R., & Son, Oban, Sec. 30, Tp. 36, R. 15, W. 3rd Mer.; Red Fife, 9 years.
 Tait, Andrew, Semans, Sec. 6, Tp. 27, R. 19, W. 2nd Mer.; Marquis, 2 years.
 Teare, Thos., Marquis, Sec. 20, Tp. 19, R. 27, W. 2nd Mer.; Marquis, 3 years.
 Teare, Thos., Marquis, Sec. 20, Tp. 19, R. 27, W. 2nd Mer.; Red Fife, 2 years.
 Turner, W. E., Duval, Sec. 27, Tp. 25, R. 22, W. 2nd Mer.; Marquis, 2 years.
 Wake, Joshua K., Halcyonia, Sec. 2, Tp. 40, R. 8, W. 3rd Mer.; Red Fife, 4 years.
 West, Preston C., Kindersley, Sec. 21, Tp. 29, R. 23, W. 3rd Mer.; Marquis, 2 years.
 Wheeler, Seager, Rosthern, Sec. 3, Tp. 43, R. 3, W. 3rd Mer.; Marquis, 5 years.
 Wood & Ibbetson, Bladworth, Sec. 6, Tp. 29, R. 1, W. 3rd Mer.; Marquis, 4 years

Manitoba.

Aitken, Albert, Melita, Sec. 20, Tp. 2, R. 26, W. 1st Mer.; Marquis, 3 years.
 Bedford, Mrs. N., Morden, Sec. 6, Tp. 2, R. 5, W. P. Mer.; Red Fife, 7 years.
 Brockington, W. R., Elva, Sec. 23, Tp. 2, R. 27, W. P. Mer.; Marquis, 1 year.
 Dow Bros., Gilbert Plains, Sec. 9, Tp. 25, R. 22, W. P. Mer.; Red Fife, 13 years.
 Meyer, H. A., Gilbert Plains, Sec. 9, Tp. 25, R. 22, W. P. Mer.; Marquis, 1 year.
 MacVicar, Donald, Portage la Prairie, Sec. 10, Tp. 12, R. 7, W. 2nd Mer.; Marquis,
 4 years.
 Price, A. W., Gilbert Plains, Sec. 1, Tp. 26, R. 22, W. 1st Mer.; Marquis, 3 years.
 Rowe, W. A. A., Neepawa, Sec. 25, Tp. 15, R. 16, W. 1st Mer.; Red Fife, 9 years.
 Wiener, John, Miami, Sec. 3, Tp. 5, R. 7, W. P. Mer.; Red Fife, 8 years.

Ontario.

Dumfries and Wilmot, Golden Chaff Wheat Centre, Galt, Waterloo Co., Dawson's
 Golden Chaff, 12 years.
 Livingstone, Lloyd, Minesing, Simcoe Co., Wild Goose, 2 years.

Quebec.

Dubé, Alfred, Beauséjour, Rimouski Co.; Marquis, 3 years.
 Levasseur, Jérémie, St. Ulric, Matane Co.; Campbell's White Chaff, 16 years.
 Morin, Horace, St. Hyacinthe, St. Hyacinthe Co.; Red Fife, 5 years.
 Phaneuf, Antoine, St. Antoine, Verchères Co.; Marquis, 2 years.
 Tardiff, Laurent, St. Germain, Kamouraska Co.; Preston, 6 years.

New Brunswick.

Innes, Donald, Tobique River, Victoria Co.; White Fife, 16 years.

Nova Scotia.

Chisholm, Ronald, Antigonish, Antigonish Co.; White Russian, 10 years.
 Creed, Richard, Albion, Kings Co.; White Russian, 8 years.
 Cunningham, J. L., Bayhead, Colchester Co.; White Russian, 3 years.
 Dunn, Jas. H., Lower South River, Antigonish Co.; White Russian, 11 years.
 Harrison, Elwin N., Maccan Station, Cumberland Co.; Red Fife, 2 years.
 Hogan, Thos., Harbour Rd., Antigonish Co.; White Russian, 2 years.
 Kaulbeck, Robert, Mid. Musquodoboit, Halifax Co.; Red Fife, 2 years.
 MacFarlane, W. L., Fox Harbour Pt., Cumberland Co.; Red Fife, 5 years.
 MacPherson, Alex., Cloverville, Antigonish Co.; White Russian, 2 years.
 McKay, R. D., Balmoral Mills, Colchester Co.; Red Fife, 9 years.
 Murray, John W., Balmoral Mills, Colchester Co.; Red Fife, 6 years.
 Ogilvie, John, Elderbank, Halifax Co.; Red Fife.

Prince Edward Island.

Creed, Richard, Albion, Kings Co.; White Russian, 8 years.
 Murphy, Jas. E., Cape Traverse, Prince Co.; White Russian, 13 years.
 Waugh, Thos. S., Wilmot Valley, Prince Co.; White Russian, 16 years.
 Wiggington, T. J., Bridgetown, Annapolis Co.; White Russian, 15 years.

OATS.*Alberta.*

Anderson, Anton, Hand Hills, Sec. 19, Tp. 29, R. 16, W. 4th Mer.; Victory, 2 years.
 Blackwood, Alex S., De Winton, Sec. 36, Tp. 21, R. 1, W. 4th Mer.; Banner, 9 years.
 Dowlar, Hobart, Millet, Sec. 32, Tp. 47, R. 24, W. 4th Mer.; Banner, 14 years.
 Hess, W. H., Oyen, Sec. 6, Tp. 23, R. 4, W. 4th Mer.; Banner 12 years.
 Lucas J. W., Cayley, Sec. 19 Tp. 17, R. 28, W. 4th Mer.; Abundance, 5 years.
 McArthur, Max, New Brigden, Sec. 33, Tp. 31, R. 4, W. 4th Mer.; O.A.C. No. 72,
 2 years.
 Newsham, Jackson, Innisfail, Sec. 21, Tp. 35, R. 28, W. 4th Mer.; Banner, 3 years.
 Rollis, Rufus, Three Hills Sec. 25, Tp. 31, R. 25 W. 4th Mer.; Banner, 9 years.
 Vermilion Banner Oat Centre, Vermilion, Sec. 30, Tp. 50, R. 6, W. 4th Mer.; Banner,
 9 years.

Saskatchewan.

Carter, R. H., Fort Qu'Appelle, Sec. 17, Tp. 21, R. 14, W. 2nd Mer.; Abundance,
 8 years.
 Clark, Robt. W., Speers, Sec. 32, Tp. 43 R. 11, W. 3rd Mer.; Victory, 2 years.
 Cummings, W. J., St. Boswell, Sec. 16, Tp. 12, R. 7, W. 3rd Mer.; Banner, 9 years.

Dunn, G. H., Kindersley, Sec. 10, Tp. 26, R. 23, W. 3rd Mer.; Banner, 12 years.
 Ellett, Jesse R., Lanigan, Sec. 21, Tp. 35, R. 22, W. 2nd Mer.; Banner,
 Fields, J. S., Regina, Sec. 14, Tp. 18, R. 20, W. 2nd Mer.; Banner, 2 years.
 Fitzgerald, G. D., Grenfel, Sec. 8, Tp. 17, R. 7, W. 2nd Mer.; Ligowo, 3 years.
 Kirkham, R. D., Saltcoats, Sec. 1, Tp. 24, R. 2, W. 2nd Mer.; Gold Rain.
 Lanigan, J. J., Elfros, Sec. 24, Tp. 33, R. 14, W. 2nd Mer.; Abundance, 3 years.
 Ramsay, W. L., Bladworth, Sec. 2, Tp. 27, R. 1, W. 3rd Mer.; Banner, 11 years.
 Rowbottom, F. E. K., Fartown, Sec. 2, Tp. 48, R. 27, W. 3rd Mer.; Abundance, 5 years.
 Richter, A., Alford, Sec. 24, Tp. 25, R. 13, W. 3rd Mer.; Abundance, 5 years.
 Shury, F. J., Battleford, Sec. 36, Tp. 42, R. 19, W. 3rd Mer.; Banner, 12 years.
 Simpson, W. S., Glenbryan, Sec. 9, Tp. 11, R. 11, W. 3rd Mer.; Banner, 12 years.
 Stansfield, E. J., Atwater, Sec. 4, Tp. 21, R. 2, W. 2nd Mer.; Banner.
 Teare, Thos., Marquis, Sec. 20, Tp. 19, R. 27, W. 2nd Mer.; Abundance, 6 years.
 Wake, Joshua K., Borden, Sec. 33, Tp. 39, R. 9, W. 3rd Mer.; Victory, 1 year.
 Whiting, Frank J., Traynor, Sec. 36, Tp. 38, R. 18, W. 3rd Mer.; Banner, 12 years.
 Wheeler, Seager, Rosthern, Sec. 3, Tp. 43, R. 3, W. 3rd Mer.; Victory, 4 years.

Manitoba.

Aitken, Albert, Melita, Sec. 20, Tp. 2, R. 26, W. 1st Mer.; O.A.C. 72, 1 year.
 Bily, Carel, Millwood, Sec. 2, Tp. 20, R. 29, W. P. M.; Banner.
 Dow Bros., Gilbert Plains, Sec. 9, Tp. 25, R. 22, W. P. M.; Banner, 15 years.
 Schroeder, G. P., Chortitz, Sec. 10, Tp. 7, R. 5, E. P. M.; Gold Rain.

Ontario.

Abra, Jas. B., Corunna, Lambton Co.; O. A. C. 72, 1 year.
 Airth, John M., Renfrew, Renfrew Co.; Banner, 3 years.
 Barrie, Geo. R., Galt, Waterloo Co.; Banner, 11 years.
 Barrie, Geo. R., Galt, Waterloo Co.; O. A. C. No. 72, 1 year.
 Boyce, Geo., Merivale, Carleton Co.; Banner, 15 years.
 Crosby, R. H., Markham, York Co.; O. A. C. No. 72, 3 years.
 Coughlin, Frank, Crediton, Huron Co.; O. A. C. No. 72, 1 year.
 Clement, Austin, Paris, Brant Co.; Banner, 13 years.
 Cohoe, R. B., South Woodslee, Essex Co.; O. A. C. No. 72, 1 year.
 Dixon, W. L., Varney, Grey Co.; Banner, 15 years.
 Dumond, Austin E., New Liskeard, Nipissing Dist., O. A. C. No. 72, 1 year.
 Dumfries & Wilmot, O. A. C. No. 72, Oat Centre, Sec. Stanley Hillborn, Galt, Waterloo
 Co., 3 years.
 Dymond, Wm., Kerwood, Middlesex Co.; O. A. C. No. 72.
 Ferguson, Jas., Osgoode, Russell Co.; Banner, 12 years.
 Ferguson, W. B., Strathroy, Middlesex Co.; O. A. C. No. 72, 2 years.
 Foysten Bros., Minesing, Simcoe Co.; O. A. C. No. 72, 2 years.
 Farrow, Frank, Mt. Brydges, Middlesex Co.; O. A. C. No. 72, 1 year.
 Goltz, Herman, Bardsville, Muskoka District; Imp. Scotch, 7 years.
 Gallagher, Wm., Strathroy, Middlesex Co.; O. A. C. No. 72, 1 year.
 Graham, Washington, Carp, Carleton Co.; O. A. C. No. 72, 2 years.
 Hodson, F. W., Brooklin, Ontario Co.; O. A. C. No. 3, 1 year.
 Hodson, F. W., Brooklin, Ontario Co.; O. A. C. No. 72, 2 years.
 Hankinson, L. D., Aylmer, Elgin Co., O. A. C. No. 72.
 Hamilton, Garnet E., Navan, Russell Co.; Banner, 11 years.
 Klopp, Oscar, Zurich, Huron Co.; O. A. C. No. 72, 2 years.
 Knight, Isaac T., Uxbridge, Ontario Co.; O. A. C. No. 72, 2 years.
 Klinck, R. F., Gormley, York Co.; O. A. C. No. 72, 3 years.

Lamont, A., Mt. Brydges, Middlesex Co.; O. A. C. No. 72, 3 years.
 Livingstone, Lloyd, Minesing, Simcoe Co.; O. A. C. No. 72, 3 years.
 Limon, Duncan, Strathroy, Middlesex Co.; Banner, 11 years.
 Lovett, John W., Paris, Brant Co.; Banner, 12 years.
 Maccoll, Arch., Rodney, Elgin Co.; O. A. C. No. 72.
 MacFarlane, Mack A. P., Camlachie, Lambton Co.; O. A. C. No. 72, 2 years.
 McKee, Jas. H., Shelburne, Dufferin Co.; O. A. C. No. 3, 1 year.
 North Gower Banner Oat Centre, North Gower, Carleton Co.; Banner, 14 years.
 Poole, Norman, Perth, Lanark Co.; Banner, 3 years.
 Ramage, W. A., Varney, Grey Co.; O. A. C. No. 72, 1 year.
 Schmidt, Andrew, Mildmay, Bruce Co.; Sensation, 6 years.
 Sorley, Neil, R. R. 1, Ottawa, Carleton Co.; Banner, 10 years.
 Stark, J. H., Peterboro, Peterborough Co.; Banner, 11 years.
 Taylor, Garnet, Wellington, Prince Edward Co.; O. A. C. No. 72, 3 years.
 Turnbull, Frank M., Paris, Brant Co.; O. A. C. No. 72, 1 year.
 Walker, Fletcher, Royston, Parry Sound District; Banner, 8 years.
 Webster, H. B., St. Marys, Perth Co.; O. A. C. No. 72, 3 years.
 Wilson, Peter, Cobden, Renfrew Co.; Banner, 11 years.
 Wilmot, Alex. S., Milton, Halton Co.; O. A. C. No. 72, 1 year.
 Wilson, Isaac L., Perth, Lanark Co.; Banner, 11 years.

Quebec.

Brown, Byron W., Smith's Mills, Stanstead Co.; Banner, 6 years.
 Boisvert, Theodore, St. Casimir, Portneuf Co.; Banner, 1 year.
 Boily, Adélard, Baie St. Paul, Charlevoix Co.; Banner, 6 years.
 Couture, Joseph, Lorette, Quebec Co.; Banner, 9 years.
 Duval, Téléphone, Champlain, Champlain Co.; Banner, 12 years.
 Denis, Armand, St. Cuthbert, Berthier Co.; Banner, 10 years.
 Durocher, Ulric, Clairvaux, Bagot Co.; Banner, 5 years.
 England, G. P., Dunham, Missisquoi Co.; Banner, 6 years.
 Green, Henry C., Coaticook, Stanstead Co.; Banner, 6 years.
 Grandmont, Elzear, Champlain, Champlain Co.; Banner, 10 years.
 Hodge, Geo., Cookshire, Compton Co.; Banner, 5 years.
 Hodge, Reggie, Cookshire, Compton Co.; Banner, 7 years.
 Hardy, Michael A., St. Casimir, Portneuf Co.; Banner, 1 year.
 Levasseur, Jérémie, St. Ulric, Matane Co.; Gold Rain, 5 years.
 Lussier, Clement, St. Rosalie, Bagot Co.; Banner, 6 years.
 Lirette, Odilon, Lorette, Quebec Co.; Banner, 11 years.
 Laprise, Chas., St. Félicien, Lac St. Jean; Banner, 5 years.
 Leboeuf, Jos., St. Casimir, Portneuf Co.; Banner, 1 year.
 Morin, Horace, St. Hyacinthe, St. Hyacinthe Co.; Banner, 6 years.
 Morin, Adélard, St. Hyacinthe, St. Hyacinthe Co.; Banner, 3 years.
 Pintal, Gus, Champlain, Champlain Co.; Banner, 9 years.
 Robitaille, David, Cap Rouge, Quebec Co.; Banner, 4 years.
 Rocheleau, Louis, Pike River, Missisquoi Co.; Banner, 7 years.
 Rainville, Jos., St. Prime, Chicoutimi Co.; Banner, 7 years.
 Rhéaume, Eph., St. Bernard, Dorchester Co.; Banner.
 Tardiff, Laurent, St. Germain, Kamouraska Co.; Banner, 6 years.
 Turcotte, Aimé, Champlain, Champlain Co.; Banner, 12 years.

New Brunswick.

Fiske Bros., Florenceville, Carleton Co.; Banner, 2 years.
 Hastings, Chas., Murray Road, Westmoreland Co.; Old Island Black, 8 years.
 Innes, Donald, Tobique River, Victoria Co.; Early Blossom, 16 years.
 Napier, N. L., Lower Woodstock, Carleton Co.; Banner.
 Palmer, Wm. E., Scotch Lake, York Co.; Banner, 15 years.

Nova Scotia.

Brown, Harry, Wallace Bay, Cumberland Co.; Banner, 10 years.
 Chisholm, Ronald, Antigonish, Antigonish Co.; Banner, 10 years.
 Cunningham, J. L., Bayhead, Colchester Co.; Banner, 9 years.
 Chisholm, Ronald, Glen Road, Antigonish Co.; Banner, 8 years.
 Chisholm, John J., South Side Harbour, Antigonish Co.; Banner, 5 years.
 Gillis, Francis, Georgeville, Antigonish Co.; Banner, 6 years.
 Harrison, Elwin N., Maccan Station, Cumberland Co.; Banner, 7 years.
 Joudry, C. D., Mid. Musquodoboit, Halifax Co.; Banner.
 Kaulbeck, Robert, Mid. Musquodoboit, Halifax Co.; Banner, 7 years.
 Murray, John W. & Son, Balmoral Mills, Colchester Co.; Banner, 6 years.
 MacFarlane, W. L., Fox Harbour, Cumberland Co.; Banner, 10 years.
 MacFarlane, J. A., Fox Harbour, Cumberland Co.; Ligowo, 3 years.
 McDonald, J. A., Maryvale, Antigonish Co.; Banner, 9 years.
 McNeil, John P., Lanark, Lanark Co.; Banner, 5 years.
 McKay, R. D., Balmoral Mills, Colchester Co.; Banner, 9 years.

Prince Edward Island.

Creed, Richard, Albion, King's Co.; Banner, 12 years.
 Marchbank, Percy, New Annan, Prince Co.; Banner, 1 year.
 Marchbank, Jas., New Annan, Prince Co.; Banner, 16 years.
 Murphy, Jas. E., Cape Traverse, Prince Co.; Banner, 6 years.
 Millman, J. Bradford, Long River, Queen's Co.; Banner, 9 years.
 McGregor, W. H., Miscouche, Lot 16, Prince Co.; Banner, 14 years.
 MacFarlane, Alex B., Bedeque, Prince Co.; Banner, 11 years.
 McKenna, Michael, Newton, Prince Co.; Banner, 16 years.
 Riverside Farm, Bedeque, Prince Co.; Banner, 13 years.
 Simpson, J. J., Belmont, Prince Co.; Banner, 10 years.
 Summerside Banner Oat Centre, Summerside; Banner.
 Waugh, Thos., Wilmot Valley, Prince Co.; Banner, 13 years.
 Wiggington, T. J., Bridgetown, King's Co.; Ligowo, 14 years.

BARLEY.*Alberta.*

Dowlar, Hobart, Millet, Sec. 32, Tp. 47, R. 24, W. 4th Mer.; O. A. C. No. 21, 2 years.
 Lucas, J. W., Cayley, Sec. 19, Tp. 17, R. 28, W. 4th Mer.; Manchurian.
 Perry, A. D., Talbot, Sec. 6, Tp. 38, R. 9, W. 4th Mer.; O. A. C. No. 21, 4 years.

Saskatchewan.

Carter, R. H., Fort Qu'Appelle, Sec. 17, Tp. 21, R. 14, W. 2nd Mer.; Manchurian,
 3 years.
 Ellett, Jas. R., Lanigan, Sec. 21, Tp. 48, R. 22, W. 2nd Mer.; O. A. C. No. 21, 1 year.
 Floyd, M. P., Marshall, Sec. 10, Tp. 48, R. 27, W. 3rd Mer.; Manchurian, 1 year.
 Teare, Thos., Marquis, Sec. 10, Tp. 19, R. 28, W. 2nd Mer.; Manchurian, 2 years.
 Wheeler, Seager, Rosthern, Sec. 3, Tp. 43, R. 3, W. 3rd Mer.; Can. Thorpe, 4 years.
 Wheeler, Seager, Rosthern, Sec. 3, Tp. 43, R. 3, W. 3rd Mer.; O. A. C. No. 21, 4 years.

Ontario.

Barrie, Geo. R., Galt, Waterloo Co.; O. A. C. No. 21, 2 years.
 Cohoe, R. B., South Woodslee, Essex Co.; O. A. C. No. 21, 1 year.
 Foysten Bros., Minesing, Simcoe Co.; O. A. C. No. 21, 2 years.
 Goltz, Herman, Bardsville, Muskoka Dist.; O. A. C. No. 21, 1 year.
 Hodson, F. W., Brooklin, Ontario Co.; O. A. C. No. 21, 3 years.
 Livingstone, Lloyd, Minesing, Simcoe Co.; O. A. C. No. 21, 7 years.
 Maccoll, Arch, Rodney, Elgin Co.; O. A. C. No. 21, 4 years.
 Partridge, A. W., Barrie, Simcoe Co.; O. A. C. No. 21, 5 years.
 Ratcliffe, Roy R., Oshawa, Ontario Co.; O. A. C. No. 21, 2 years.
 Schmidt, Andrew, Mildmay, Bruce Co.; O. A. C. No. 21, 6 years.
 Stark, J. H., Peterboro, Peterborough Co.; O. A. C. No. 21, 6 years.
 Webster, H. B., Rannoch, Perth Co.; O. A. C. No. 21, 5 years.

Nova Scotia.

Joudry, C. D., Mid. Musquodoboit, Halifax Co.; Manchurian, 2 years.
 MacFarlane, W. L., Fox Harbour, Cumberland Co.; O. A. C. No. 21, 1 year.

Prince Edward Island.

Creed, Richard, Albion, King's Co.; O. A. C. No. 21, 1 year.
 Waugh, Thos. S., Wilmot Valley, Prince Co.; O. A. C. No. 21, 5 years.
 Wiggington, T. J., Bridgetown, King's Co.; Mensury, 7 years.

CORN.*Ontario.*

Coatsworth, J. H., Ruthven, Essex Co.; Essex No. 1, 8 years.
 Cohoe, B. R., South Woodslee, Essex Co.; Wisconsin No. 7, 4 years.
 Hankinson, L. D., Aylmer, Elgin Co.; Golden Glow, 1 year.
 Hankinson, L. D., Aylmer, Elgin Co.; Longfellow, 10 years.
 Hankinson, L. D., Aylmer, Elgin Co.; Stowell's Evergreen, 3 years.
 Maynard, A. S., Chatham, Kent Co.; N. Dakota White Flint, 5 years.
 Maccoll, Arch., Rodney, Elgin Co.; Compton's Early, 6 years.
 MacFarlane, Mack A. P., Camlachie, Lambton Co.; W. Cap Yellow Dent, 2 years.
 McKee, John W., Norwich, Oxford Co.; Stowell's Evergreen, 8 years.
 Pearce, Stewart L., Wallacetown, Essex Co.; Pearce's Prolific, 1 year.
 Peterson, Nelson, Ruthven, Essex Co.; Wisconsin No. 7, 1 year.
 Riverfront Wisconsin No. 7 Seed Corn Centre, Amherstburg, Essex Co.; Wisconsin No. 7, 5 years.
 Smith, F. A., Grovesend, Elgin Co.; Bailey, 5 years.
 Smith, F. A., Grovesend, Elgin Co.; Stowell's Evergreen, 4 years.
 Smith, F. A., Grovesend, Elgin Co.; Gold Nugget, 4 years.
 Sovereign, L. A., Waterford, Norfolk Co.; Old Colony, 4 years.
 Waugh, J. S., Chatham, Kent Co.; Longfellow.

Quebec.

Moe, W. J., Franklin Centre, Huntingdon, P.Q.; No. 28, 3 years.
 Reed, B. E., Ulverton, Drummond Co.; Quebec Yellow, 6 years.

Nova Scotia.

Chute, Manning, Berwick, King's Co.; Yellow Flint, 7 years.

PEAS.*Alberta.*

Lucas, J. W., Cayley, Sec. 19, Tp. 17, R. 28, W. 4th Mer.; Arthur, 2 years.

Ontario.

Airth, John M., Renfrew, Renfrew Co.; Arthur, 4 years.

Dumond, Austin, New Liskeard, Nipissing District; Arthur, 2 years.

New Brunswick.

Innes, Donald, Tobique River, Victoria Co.; White Marrowfat, 11 years.

POTATOES.*Alberta.*

Hess, W. H., Oyen, Sec. 6, Tp. 28, R. 4, W. 4th Mer.; Early Ohio, 2 years.

Lucas, J. W., Cayley, Sec. 19, Tp. 17, R. 28, W. 4th Mer.; Gold Coin, 2 years.

Saskatchewan.

Clark, R. W., Speers, Sec. 32, Tp. 43, R. 11, W. 3rd Mer.; Wee MacGregor, 1 year.

Cummings, W. J., St. Boswells, Sec. 16, Tp. 12, R. 7, W. 3rd Mer.; Early Ohio, 1 year.

Genge, C., Kindersley, Sec. 27, Tp. 19, R. 27, W. 3rd Mer.; Wee MacGregor, 3 years.

Genge, C., Kindersley, Sec. 27, Tp. 19, R. 27, W. 3rd Mer.; Early Ohio, 2 years.

Hall, W. J. G., Blucher, Sec. 12, Tp. 36, R. 2, W. 3rd Mer.; Carman No. 1, 6 years.

Talbot, Martin R. & Son, Oban, Sec. 21, Tp. 36, R. 16, W. 3rd Mer.; Carman No. 1, 3 years.

Turner, W. E., Duval, Sec. 27, Tp. 25, R. 22, W. 2nd Mer.; Irish Cobbler, 6 years.

Watters, Wm., Nutana, Sec. 36, Tp. 34, R. 5, W. 3rd Mer.; Vermont Gold Coin, 4 years.

Watters, Wm., Nutana, Sec. 36, Tp. 34, R. 5, W. 3rd Mer.; Rochester Rose, 4 years.

Ontario.

Goltz, Herman L., Bardville, Muskoka Dist.; Empire State, 6 years.

Goltz, Herman L., Bardville, Muskoka Dist.; Early Rose, 6 years.

Goltz, Herman L., Bardville, Muskoka Dist.; Davies' Warrior, 1 year.

Hutchinson, Alfred, Mt. Forest, Wellington Co.; Empire State, 9 years.

Hutchinson, Alfred, Mt. Forest, Wellington Co.; Rural New Yorker, 3 years.

Livingstone, Lloyd, Minesing, Simcoe Co.; Davies' Warrior, 3 years.

Manvers Potato Centre, Pontypool, Durham Co.; Green Mountain, 5 years.

Martyn, E. H., Port Hope, Durham Co.; Extra Early Eureka, 2 years.

McKee, Jas. H., Shelburne, Dufferin Co.; Empire State, 1 year.

Naismith, Wm., Falkenburg, Muskoka Dist.; Empire State, 5 years.

Naismith, Wm., Falkenburg, Muskoka Dist.; Rochester Rose, 5 years.

Naismith, Wm., Falkenburg, Muskoka Dist.; Canadian Standard, 6 years.

Walker, Fletcher, Royston, Parry Sound District; Rochester Rose, 3 years.

Walker, Fletcher, Royston, Parry Sound District; Empire State, 3 years.

Wilson, J. H., Pakenham, Lanark Co.; Green Mountain, 6 years.

New Brunswick.

Fawcett, C. Fred, Sackville, Westmoreland Co.; Green Mountain, 7 years.

Fawcett, C. Fred, Sackville, Westmoreland Co.; Irish Cobbler, 6 years.

Napier, N. L., Lower Woodstock, Carleton Co.; Green Mountain, 4 years.

Palmer, Wm. E., Scotch Lake, York Co.; Delaware, 5 years.
 Palmer, Wm. E., Scotch Lake, York Co.; Irish Cobbler, 5 years.
 Parlee, Harvey B., Sussex, King's Co.; Ensign, 4 years.
 Parlee, Harvey B., Sussex, King's Co.; Irish Cobbler, 4 years.
 Parlee, Harvey B., Sussex, King's Co.; Early Triumph, 4 years.
 Parlee, Harvey B., Sussex, King's Co.; Delaware, 4 years.

Nova Scotia.

Brown, Harry, Wallace Bay, Cumberland Co.; Green Mountain, 9 years.
 Hogan, Thos., Harbour Road, Antigonish Co.; Green Mountain, 1 year.

BEANS.

Ontario.

Coughlin, Frank, Crediton, Huron Co.; Boston Pea Beans, 1 year.

FLAX.

Saskatchewan.

Dunn, G. H., Kindersley, Sec. 10, Tp. 26, R. 23, W. 3rd Mer.; Premost, 3 years.
 Ramsden, Geo. H., Cotteau, Sec. 36, Tp. 23, R. 15, W. 3rd Mer.; North Dakota
 Resistant No. 114, 1 year.

APPLICANTS, 1915-16.

Those who have applied for membership, including those in seed centres, but who are not yet entitled to such recognition, are indicated in the following table:—

	Mari.					Alta	
	Dist.	P.Q.	Ont.	Man.	Sask.	& B.C.	Total
Seed Wheat growers	42	14	38	30	130	52	306
Seed Oat growers	99	245	267	16	72	37	736
Seed Barley growers	20	12	55	5	21	15	128
Growers of Seed Corn	12	8	44	7	1	0	72
Growers of Seed Potatoes	30	10	55	2	17	24	138
Growers of Seeds of miscellaneous crops, such as Beans, Peas, etc.	6	10	44	0	25	14	99
	209	299	503	60	266	142	1479

Since some of the growers indicated in the above table operate with more than one class of crop, a further analysis is necessary in order to show the exact number of persons actually engaged in the work. The following statement indicates the standing of the Association in this respect:—

SUMMARY

Total number on application list before revision	1186	
Total number of applicants removed from list of active operators	113	
Number of applicants removed to membership list	68	
Number of applicants remaining on list		1005
Number of old members reporting satisfactorily		160
Number of members failing to make satisfactory selections	125	
Number of old members dropping the work	9	
		116
Number of new members reporting satisfactorily		68
Total number of individual members in full standing		344
Total number affiliated with the Association		1349

PART I.

**MINUTES OF THE TWELFTH ANNUAL MEETING OF THE
CANADIAN SEED GROWERS' ASSOCIATION.**

The Twelfth Annual Meeting of the Canadian Seed Growers' Association was held in the office of the Seed Commissioner, Canadian Building, Ottawa, on June 16th, 1916.

The President, Dr. James W. Robertson occupied the chair and in opening the meeting explained that owing to the unusual conditions prevailing on account of the war the Directors had thought it wise to confine discussions this year to a consideration of matters of business and to dispense with addresses and papers. By reason of this arrangement the Annual Report this year will be smaller than usual.

The minutes of the last meeting, having been printed in the Annual Report, were taken as read on motion of Mr. Raynor, seconded by Prof. Zavitz.

The Report of the Board of Directors was then presented by the Secretary.

DIRECTORS' REPORT.

(Presented by the Secretary)

We beg to submit herewith a very brief report on the operations and general progress of the Association for the past year. The numerical standing, together with other matters of detail, are submitted in the Report of the Secretary.

The past year has been especially noteworthy in demonstrating the advantages of the policy adopted two years ago, of encouraging initiative action and responsibility by Provincial and Local bodies. Very substantial progress has been made throughout the Dominion during the year and this may be attributed chiefly to the policy indicated. It will require some time before the full fruits of this policy may be realized, but we are confident that each succeeding year will prove more conclusively the wisdom of this course of action. In some of the Provinces, steps are being taken to promote the work with special vigour, and in practically all Provinces there seems to be a feeling that more active provincial and local effort is necessary in order that the value of registered seed may be more fully appreciated and its production on a larger scale more widely encouraged. While it seems clear that each province should accept the responsibility of encouraging and supervising the production of registered seed within its borders, yet the services of the Dominion-wide organization will not likely become less necessary. Indeed the very fact that the different provinces are undertaking to produce seed for which they wish a wide recognition renders it more and more important that a central body be maintained in order to insure uniformity of standards and a co-ordination of effort. The existence of such a body also invites greater confidence on the part of those who want to buy seed. This is particularly true in the case of interprovincial trade, which trade is coming to be considerable.

During the past year practically all the provinces have held conventions of members where the practical work of seed growing and marketing has been freely discussed.

Our members continue to acquit themselves creditably at international exhibitions. Seger Wheeler, who is now one of our veteran members has won, for the third time, the World's Prize for the best hundred pounds of hard spring wheat with the *Marquis* variety. The exhibition at which this prize was won was held at Denver, Colo., U.S.A. At this Exposition Mr. Wheeler also carried off first prize and sweepstakes in the class for sheaves of oats, hard spring wheat, hard winter wheat and Brome Grass. He also obtained third prize on a sheaf of Sudan Grass. Other prominent members who won prizes are R. H. Carter of Fort Qu'Appelle, Sask., who obtained second prize for

threshed oats and third prize for a sheaf of Brome Grass; Mr. W. S. Simpson of Pambrun, Sask., won first prize on a sheaf of black oats, first prize on Brome Grass seed and second prize on flax seed. The second prize for the best hard wheat was won by J. S. Fields of Regina, Sask.

The last Report of the Association (1914-15) was printed out of the Association's grant. Heretofore the printing has been done out of Seed Branch funds, but this year our Executive was asked to try to provide enough out of its own grant to print the Report. Instead of printing the usual issue of some 60,000 English copies and 15,000 French, we were therefore obliged to limit the number to 15,000 English and 3,000 French. Each member and applicant was sent a copy, while copies were also sent to a special mailing list consisting of agricultural colleges, experimental stations and similar institutions and individuals throughout the Dominion. The distribution was performed by the Publications Branch of the Dominion Department of Agriculture, which Branch also prepared and distributed in large numbers a notice to the effect that the Report was available for distribution to all who might apply for same.

An increasing number of our growers are giving publicity to the work they are doing through the press. This is something which our Executive encourages in order that other farmers may be induced to give greater attention to this exceedingly important part of farm practice.

Meetings of members resident in the various Provinces have been held during the year in connection, in each case, with some large Provincial gathering. These meetings have been fairly well attended and have been addressed by prominent authorities on various phases of the work. The papers and addresses presented constitute a valuable contribution to our literature. We recommend that a summary of this material be printed as soon as circumstances permit.

The Board begs to report to the Association that the Constitution and Regulations as now published have been adopted after careful consideration.

Moved by Mr. Murray, seconded by Mr. LeLacheur, that this report be adopted.—Carried.

The matter of price for Registered Seed was discussed at considerable length. Prof. Zavitz believed that in arriving at a fair price the cost of production should be considered. He thought special value should be attached to the increased value of the seed itself, that is to its power to produce greater yields. He recommended that the Secretary prepare a slip containing comments from purchasers of Registered seed and that these slips be used, in giving publicity to the value of the seed being offered for sale.

Moved by Mr. Clark, seconded by Prof. Zavitz, that Dr. C. E. Saunders and the Secretary be requested to draft a statement indicating the views of the Association re the value of seed produced. Carried.

This statement was duly prepared and submitted as follows:

Whereas, in the opinion of this Association, the very great superiority of pure, high-class, selected seed grain over ordinary grain as sold for milling and feeding purposes is not generally recognized, the Association suggests to sellers of Registered and Improved Seed that, as a rule, Registered seed should bring about two and one-half times, and Improved seed about one and one-half times the price of common grain.

It was suggested by Dr. Saunders that this statement be included on the above-mentioned slips.

Dr. Saunders advised accepting for registration seed which was slightly discoloured and yet otherwise good.

The Secretary explained that this had already been the practice.

Prof. Murray recommended putting on a good price on Registered Seed.

The Report of the Secretary was then presented.

SECRETARY'S REPORT.

I have the honour to present herewith my tenth annual Report as Secretary-Treasurer of the Canadian Seed Growers' Association. This Report covers the operations of the Association for the year ending March 31st, 1916.

During the past year, selections of seed were made by 228 growers as compared with 215 growers in 1914, 181 in 1913, and 153 in 1912. The names and addresses of those growers who made selections in 1915, together with the varieties with which they are working, are published in the prefix to this Report. Out of the above number 160 have already been admitted to membership in the Association in full standing, so there now remain 68 who are entitled to election. I respectfully recommend that these gentlemen be admitted as members of this Association. Their names are as follows:

List of those recommended for membership:

Abra, James B., Corunna, Ont.
Banting, Benjamin L., Richlea, Sask.
Bortz, Israel, Eyre, Sask.
Brockington, W. B., Elva, Man.
Butler, Lyall W., Kalfield, Sask.
Burdge, Edward, Berry Creek, Alta.
Bryan, A. H., Bridgeford, Sask.
Bily, Carel, Millwood, Man.
Boisvert, Theo., St. Casimir, P.Q.
Bent, Geo. C., Whitla, Alta.
Cumming, W. J., St. Boswells, Sask.
Clement, Austin, Paris, Ont.
Coughlin, Frank, Crediton, Ont.
Dumond, Austin E., New Liskeard, Ont.
Durocher, Ulric, Clairvaux, P.Q.
Farrow, Frank, Mount Brydges, Ont.
Fields, J. S., Regina, Sask.
Grenville, Sydney P., Sarcee Butte, Alta.
Goldney-Cary, F. C., Dysart, Sask.
Gillis, Francis, Georgeville, N.S.
Gallagher, William, Strathroy, Ont.
Graham, Washington, Carp, Ont.
Grandmont, Elzear, Champlain, P.Q.
Hailes, Fred B., Kindersley, Sask.
Hastings, Charles, Murray Road, N.B.
Howard Bros., Forest Farm, Sask.
Hogan, Thomas, Harbour Road, N.S.
Hallman, E. B., New Dundee, Ont.
Hodge, Geo., Cookshire, P.Q.
Hodge, Reggie, Cookshire, P.Q.
Hamilton, Garnet, Navan, Ont.
Hancox, E. Avery, Kindersley, Sask.
Hardy, Mich. A., St. Casimir, P.Q.
King, Chas. W., Bogend, Sask.
Kirkham, R. D., Saltcoats, Sask.
Knight, Isaac T., Uxbridge, Ont.
Lintott, Geo. H., Raymore, Sask.
Limon, Duncan, Strathroy, Ont.
Lussier, Clement, St. Rosalie, P.Q.
Laprise, Chas., St. Félicien, P.Q.

Lebouef, Jos., St. Casimir, P.Q.
 Myres, E. W., Truax, Sask.
 Matthews, Edward, Halcyonia, Sask.
 McNeil, John P., Lanark, N.S.
 Meyer, H. A., Gilbert Plains, Man.
 Noble, C. S., Nobleford, Alta.
 Ogilvie, John, Elderbank, N.S.
 Richter, Armand, Alford, Sask.
 Ramsden, Geo. H., Coteau, Sask.
 Rheaume, Eph., St. Bernard, P.Q.
 Pearce, Stewart L., Wallacetown, Ont.
 Poole, J. W. N., Perth, Ont.
 Scott, John T., Harold, Ont.
 Shawville Seed Centre, Shawville, P.Q.
 Schmidt, H. G. G., Madawaska, Ont.
 Summerside Banner Oat Centre, Summerside, P.E.I.
 Simpson, J. J., Belmont, P.E.I.
 Stansfield, E. J., Attwater, Sask.
 Schroeder, G. P., Chortitz, Man.
 Stibbards, W. J., Wabanum, Alta.
 Turnbull, Frank M., Paris, Ont.
 Vermilion Banner Oat Centre, Vermilion, Alta.
 Wake, Joshua K., Borden, Sask.
 West, Preston C., Kindersley, Sask.
 Wilmott, A. S., Milton, Ont.

The number of individual applications for membership which have been received during the year is 132. In addition to these a number of *groups* of farmers have indicated a desire to organize themselves into *seed centres* and to have their centres recognized by the Association. In the last (11th) Annual Report it was indicated (p. 25) that steps had been taken in 64 localities to organize Seed Centres, of which number nine had appointed regular officers and had adopted a Constitution and By-laws. During the past season practically all of these nine centres have been making progress, although the very unfavourable season, especially in Ontario, has made it rather difficult to make any substantial showing. In addition to these Centres, other centres have become established, while still others have the matter under consideration.

A very considerable number of our growers have enlisted during the year. This has effected to a very considerable extent the general progress of the work. I am glad to be able to report however that our ranks are being well maintained and that good progress is being made.

During the past couple of months we have received applications from a very considerable number of farmers who have purchased Registered seeds and who desire to propagate this seed in order that the progeny may receive recognition as Registered Seed.

The following letter is typical of many which come to this office:

"The E. V. Farm, Rainbow, Alta.

Sec., Canadian Seed Growers' Association.

Dear Sir:

Having purchased and sown this Spring Registered Seed Marquis wheat from McKenzie's, Calgary, I would like you to give me all particulars as regards the production of high-class seed. Certificate No. is E. 8512.

Sincerely yours,

(Sgd.) JACK HOWARTH."

In Western Canada a noteworthy scheme having as one of its objects the stimulating of increased interest in the matter of good seed has been launched this spring by the *Grain Growers' Guide* of Winnipeg. This paper, under the able editorship of Mr. Geo. F. Chipman, offered the best registered seed it could get as prizes to farmers who would collect a certain number of subscriptions. First Generation Registered Marquis wheat was purchased from Seager Wheeler and put up in ten-pound sacks, each sack being sealed by our inspector. Up to the present about 100 farmers have earned one or two, and in some cases more, of these ten-pound sacks and next fall and winter Mr. Chipman intends going into the scheme more elaborately and offering to subscription gatherers quantities of wheat, oats and barley sufficient to sow one-quarter of an acre seed plot. Cash prizes to the extent of \$1000 to \$1500 will also be offered to farmers producing from this seed the best ten-pound samples, these samples to be sent to Winnipeg probably in November, 1917, when they will be judged by experts. Mr. Chipman anticipates that enough registered seed will be produced this year to sow one thousand quarter-acre seed plots in the spring of 1917. In order to make the scheme of greater value to the participants and to the country generally, special efforts are being made to induce the growers of these plots to become members of the Canadian Seed Growers' Association and already a very considerable number have applied for membership. This scheme is one which might well be emulated in other Provinces.

In British Columbia the Department of Agriculture has done considerable during the year not only to encourage individual farmers taking up the work, but has also had a number of its special Investigating Stations apply to be listed as members.

An important and interesting regulation, effecting as it does the potato industry of Nova Scotia and New Brunswick has recently been passed by the Board of Agriculture for Bermuda. This regulation requires that seed potatoes for shipment to Bermuda from Nova Scotia and New Brunswick must have been grown by members of the Canadian Seed Growers' Association or farmers who have taken the preliminary steps necessary to joining the Association. In a recent letter from Mr. E. J. Wortley, Director of Agriculture for Bermuda, he says: "In 1914, a number of our farmers each lost as much as \$500.00 from seed potatoes that Nova Scotia farmers believed to be quite satisfactory. The field inspections in force last year proved a measure of protection, in as much as no farmer in Bermuda has suffered as much loss as at least forty did the year before the field inspection was required. However, comparatively few farmers grow *Garnets*, the variety wanted in Bermuda, and a field inspection alone is not adequate, as, if much poor stock is grown, the most I can do is to condemn the worst and accept the better strains, even if unsatisfactory, so as to insure that our farmers do not have a serious shortage of seed potatoes. It is important that early steps should be taken to force farmers to plant only the most productive strains, and the Board now feels that, in view of the definite information laid before the growers in Nova Scotia for two years and confirmed by Professor Brittain and Mr. Paul Murphy, who have both visited Bermuda, the time has come for farmers to either place themselves under the guidance of the officials in their Province or to give up growing potatoes for Bermuda."

The inspection of fields grown from selected seed by members during the past year has been performed in the case of practically all Provinces by officers of the various Provincial Departments of Agriculture. These officers, realizing that the success of the work within their constituencies must depend primarily upon their own efforts, have been active in encouraging our present members and inducing other good farmers to introduce the Canadian Seed Growers' Association system of producing high-class seed on their own farms. As a result of this local initiative, considerable progress has been made, and there is evidence to show that the work is having a widespread effect. As in many other lines of human endeavour, a good deal of the best work is often done quietly and without ostentation and thus remains largely unnoticed. The harmony which

exists between the officers of the different provinces and officers of the Association is most gratifying and augurs well for the future of the whole work. The following is a summary of the work of inspection for the year 1915:

	Mar. Dist.	Que.	Ont.	Man.	Sask.	Alta. & B.C.	All Prov.
No. of growers answering enquiry card and stating that they wished to be visited-----	56	55	140	16	88	28	383
Total number visited by inspector	85	95	172	23	92	12	479

Areas devoted to seed plots, quantities of seed produced, etc., 1915:—

	Alta. & B.C.	Sask.	Man.	Ont.	Que.	Mar. Dist.	Total
No. hand-selected seed plots operated in 1915 -----	27	70	10	63	28	52	250
No. growers making selections	9	60	12	65	37	44	227
Average size of hand-selected seed plots in case of cereals (acres) -----	.4	.41	.55	.48	.36	.36	.43
Total areas devoted to hand-selected plots (acres)-----	11.13	29.17	4.91	30.53	10.35	18.75	104.84
Total areas devoted to multiplying fields (acres)-----	462.5	1456.2	432.5	495.5	215.	471.7	3533.4

The inspection of threshed seed produced and offered for sale by our growers has been performed by temporary inspectors. In the majority of cases these officials found that the seed offered was well up to standard, although in some cases it was found necessary to reject the offering. This contingency, however, is obviated largely by having the growers send samples to the headquarters of the Association previously, for examination. These samples are tested and reported upon by the Dominion Seed Branch. It occasionally happens that these samples are not representative of the lot offered for sale, the latter revealing defects on inspection which were not found in the sample. In such cases the inspector has no recourse but to reject the seed.

In the case of potatoes, the inspection is done for the most part by representatives of the Division of Botany of the Dominion Experimental Farms. These officers are specially trained in the matter of plant diseases, and are, therefore, in a position to prevent diseased tubers from being sold as Registered seed. The Association is indebted to these men for the excellent services they have rendered. A report from one of these officers is given below:

"Fredericton, N.B., April 24th, 1916.

L. H. NEWMAN, ESQ.,

Sec'y-Treasurer, Canadian Seed Growers' Association,
Canadian Building, Ottawa.

Dear Sir:—

I beg to inform you that on the 19th instant I inspected fifty bags of Irish Cobbler and 36 bags of Green Mountain potatoes at the warehouse of Mr. C. Fred Fawcett, Upper Sackville, N.B. I found the quality and general condition of this lot very good. Some of the Cobblers are possibly a little larger than your regulation size, but apart from this I think they are good. The Green Mountains are an especially clean, uniform

lot. I inspected Mr. Fawcett's Green Mountain field during the growing season and found it to be in first class condition, practically free from disease, the returns being 639 barrels from ten acres.

Yours faithfully,
(Sgd.) GEO. PARTRIDGE,
Plant Disease Inspector."

As a result of the unfavourable harvesting conditions which prevailed throughout a great many sections in Canada last summer, the amount of really first class seed which was available for sale this spring was very limited. A large percentage of the samples were badly discoloured and damaged by the weather. In some cases the germination was seriously effected. Only about twenty per cent. of the total number of samples sent in represented lots of seed which could comply with our standards of registration.

Some growers are under the impression that the standards set by the Association are too high, but the great majority agree that the highest possible standards should be maintained, even though the quantity of seed which is allowed to be recognized as Registered seed be relatively small. People are coming to realize more and more the difficulties which confront the average farmer and the necessity he is under of very frequently replenishing his stock. When he has to do this he naturally wishes to obtain the best seed available, and he is becoming more and more particular regarding the purity, vitality and general quality of the seed. It seems quite clear therefore that the standards which now obtain are not too high.

Some of the seed grown by our members has been shipped in sacks to seed dealers for cleaning and grading. In these cases the inspecting and sealing is done at the warehouse of the Company concerned. This method of handling registered seed is fairly satisfactory, although in some cases members are inclined to think that dealers are not quite as careful as they might be in preventing their seed from becoming mixed. In one or two cases in Western Canada we allowed seed to be shipped loose in cars. This method however is not considered a safe one and therefor is not one to be recommended.

The market for registered and improved seed in the past spring has not been particularly good, owing to the unusually large amount of extra good grain which was produced throughout Canada last year. The prospects at present however are that many farmers in Ontario particularly, will have to purchase a great deal of their seed in 1917. Those provinces which have been favoured with better weather for seeding and which are likely to reap a more satisfactory crop would do well to take note of this situation.

Considerable attention has been devoted to the production of Mangel seed during the past year, the ultimate aim being the production of registered seed of this important crop. This spring fifteen pounds of seed each of Yellow Intermediate Mangel and a similar quantity of Yellow Ovoid Mangel were obtained from Mr. Boving of MacDonald College, P.Q., for distribution at \$1.00 per pound to members who wish to propagate this seed for registration. Up to the present 22 farmers have obtained and paid for some of this seed and we hope within a couple of years to produce a considerable quantity of seed which we may accept for registration.

An interesting experiment is also being conducted in co-operation with the Experimental Farms Branch in comparing home-grown mangel seed with imported seed of the same variety. The home grown seed was produced last year at the Central Experimental Farm in connection with an experiment to determine the profits to be derived per acre from growing mangel seed in commercial quantities. Farmers who were prepared to compare the two lots of seed were offered as much as ten pounds of the home grown seed free of charge providing they would purchase through the Association an equal quantity of imported seed. Forty-seven farmers obtained seed for this test. The results will appear later.

Our regular spring catalogue has been published to the extent of 3000 English and 1500 French copies. These have been widely distributed and should give the work of the Association and its product considerable publicity. Each year we find that this catalogue is being asked for by a greater number of farmers, seed merchants and agricultural publications.

The market for seed this spring has not been quite so keen as usual owing to the presence of large quantities of grain in the country resulting from the large crop of last year (1915). Really first class seed however, was quickly bought up in most cases, but seed of medium quality was not sought for to any great extent.

The time would seem to be ripe when special marketing facilities should be provided. This is a matter which can be handled best by the Provinces and probably on a co-operative basis. Some growers are under the impression that the prices asked for registered seed are too low. They would favour establishing a definite premium above market prices for this class of seed.

Our correspondence during the year has been about normal, there being about the usual number of enquiries for information and assistance in the growing of registered seed. Below is submitted a typical letter from a gentleman who signifies a wish to take up systematic work in high class seed production:

"Secretary, Canadian Seed Growers' Association,

Canadian Building, Ottawa.

Dear Sir:—

Being interested in the welfare of our community and in better farming as a whole, particularly in seed selection and good tillage, I would like to become a member of the Canadian Seed Growers' Association.

I am a young farmer with considerable experience and an ex-student of the Manitoba Agricultural College. I have succeeded in keeping my farm fairly free from weeds. The yields have been above the average, though neither in quality or quantity as good as I would like to have them. I feel certain that by becoming a member and following the regulations, I could increase the yields and quality to a marked degree.

Yours truly,

(Sgd.) W. S. ANDERSON."

The number of men of this type who wish to join the Association seems to be on the increase and it is in the encouragement and assistance which the Association can give to such individuals that its greatest value lies. The influence of such men in their respective communities is indeed difficult to over-estimate, and it is our constant aim to enroll as many as possible.

Prof. Zavitz reported on what was being done at the O. A. C. in root seed production. He stated that they had started with the Yellow Leviathan Mangel a few years ago and had gradually developed a superior strain. This Spring (1916), they sent out "Stechlinge" to twenty-five farmers and in considerable quantity.

Mr. Clarke explained the efforts that the Seed Branch had been making in encouraging root seed growing in Canada and stated that these were only partly successful so far, but that prospects were hopeful.

Mr. Macoun, on request, reported briefly on work which was being done at the Experimental Farm, Ottawa, in the production and improvement of garden vegetable seeds. He stated that this work was divided roughly into two parts: One of these considered the problem of proving whether or not seed can be produced in Canada successfully; the second part of the work has to do with improving of vegetables by cross-breeding and selection. Already a superior strain of tomato called *Alacrity* had been distributed. *Early Malcolm* corn has also been produced by his Department and distributed to a considerable extent.

The President thought that the propagation of seed, especially of new varieties, should be under Government supervision. A considerable discussion took place on this matter but the majority did not seem altogether in favour of this principle. Mr. Clark expressed the opinion that if this idea were put into practice it would tend to destroy individual initiative and responsibility, things which at present the Association is endeavouring to encourage.

Moved by Mr. Clark, seconded by Mr. Savoie, that the names submitted by the Secretary be elected to membership.—Carried.

On motion of Prof. Zavitz, the President and Secretary were asked to draft a suitable resolution expressing the appreciation of the services rendered the Association by the late Mr. G. A. Gigault, and also the Association's regret over his death.

The Treasurer's Report was submitted and adopted, after which the election of officers took place.

Moved by Mr. Clark, seconded by Mr. LeLacheur, that the list of ten officers to be elected by the Association and which had been proposed, be elected.—Carried.

This list is as follows:—Prof. Bracken, R. H. Carter, Prof. Zavitz, W. H. McGregor, Prof. Cumming, Prof. Murray, Geo. Dow, H. A. Craig, A. Austin and W. Palmer.

Moved by Prof. Zavitz, seconded by Mr. Clark, that Dr. James W. Robertson be re-elected President of the Association.—Carried.

Under "New Business," the printing of the Annual Report was discussed, after which discussion it was recommended by Mr. Clark that the bill for printing for the current year be not more than \$2000.00. This recommendation was adopted.

The meeting then adjourned.

PART II.

**SUMMARY OF ADDRESSES AND CONTRIBUTIONS MADE
ON THE OCCASION OF MEETINGS OF MEMBERS IN
DIFFERENT PROVINCES DURING THE YEAR.**

Reports and papers containing a mass of useful information regarding the progress of the work in the different Provinces have been received from officials and growers throughout Canada. Owing to the desirability of exercising the greatest possible economy at the present time, only the briefest summary is given in this Report, the greater part being held over for use in connection with some of our future publications.

MEETING AT AMHERST, N.S., DECEMBER, 1915.

Prof. M. Cumming, Principal of the Agricultural College, Truro, N.S., occupied the chair and made a short introductory address. He stated that through the Good Seed Movement more farmers had been touched directly than through any other movement taken up by the Department of Agriculture. He emphasized the fact that no matter how limited the farmer's capital might be he might engage in the improvement of seeds on his farm to some extent at least. This was not so in the case of Live Stock.

THE WORK OF THE C.S.G.A. IN PRINCE EDWARD ISLAND.

(By Theodore Ross).

Mr. Ross outlined the gradual growth of interest taken in the matter of Good Seed by farmers on Prince Edward Island. He stated that the first real beginning of systematic seed improvement on the Island was made by the Association when a series of meetings attended by the Secretary was held eight or nine years ago. At the present time he believed that the yield per acre was greater than it formerly had been on account, largely, of the better class of seed which is now being used. Reference was made to the fact that considerable grain is exported from Prince Edward Island. In the case of Oats he believed that about a million bushels on the average were exported each year. Formerly it was the custom to export feed grain and to import seed but to-day not only is most of the seed grain required by the Island grown there, but a considerable amount of grain is exported for seeding purposes. This was something which was being encouraged in various ways. Experiments and close observation had proven the Banner variety of Oat to be the most popular white oat. In certain districts, especially those bordering on the east coast, the so-called Old Island Black Oat is preferred. These two varieties are now very largely grown although a few years ago there were a great many different varieties grown more or less extensively throughout the province. The gradual elimination of many of these less worthy sorts is an indication of the progress which is being made.

**SOME OBSERVATIONS FROM RECENT EXPERIMENTAL WORK
AT THE CHARLOTTETOWN STATION.**

(By J. A. Clark, Charlottetown).

Experiments referred to by the speaker cover a period of six seasons, namely 1910-1915 inclusive. Efforts to improve seed grain were made in three ways, namely: by fanning mill selection, mass selection of heads by hand and the selection of heads from single mother plants, these being propagated separately and the best propagated.

Mr. Clark believed that the old idea that we should change our seed grain frequently arose on farms which had no fanning mill. He emphasized the great importance of the careful use of this machine. Quite a number of strains of Banner Oats, White Russian Wheat and Barley have been developed on Prince Edward Island and it was very important that these strains be kept pure. Last summer a number of members of the Association were asked to send in samples of their seed in order that these might be grown at the Experimental Station and compared with each other. Most of the Banner Oat lots traced back originally to Mr. Waugh's seed. These lots were all remarkably uniform and true to type. Seven plots of Banner grown from seed obtained from as many members averaged 105 bushels and 26 lbs. per acre. Five plots representing the progeny of seed obtained from the Central Experimental Farm, Ottawa, and which had come from a single plant averaged 108 bushels 14 lbs. per acre.

Mr. Clark referred to a comparison which had been made between Banner, Old Island Black and Ligowo Oats grown at widely separated points throughout the province. The results showed that these varieties ranked in the order above given.

The speaker referred to the method followed at the Station in preparing the soil for crops. He stated that a four year rotation was practised as follows: Hoed crop, grain, (usually wheat and barley), clover hay, and grain (usually oats). Manure at the rate of 20 tons per acre is applied once in every four years.

Experience has shown that where potatoes are held in poorly ventilated cellars until late in the season many of the cuts do not grow. The importance of spraying with Bordeaux Mixture to prevent disease has been amply proven during the past few years.

MR. HUBBARD OF FREDERICTON, N.B.—I think the Association should pay special attention to the improvement of the Potato. The speaker stated that he had been instrumental in co-operating with Prof. Cumming and Mr. Moore in starting a number of potato seed centres.

MR. E. D. EDDY, OTTAWA.—Mr. Eddy, who acted as judge at the Seed Fair, stated that whereas a few years ago a large proportion of the exhibits contained many weed seeds, to-day very few weed seeds were to be found.

MR. DONALD INNES, TOBIQUE RIVER, N.B.—Mr. Innes stated that he had been selecting seed for fourteen years and during that time he had noticed a very considerable improvement in his seed. He had also observed that farmers generally were paying more attention to their seed than they formerly did.

MEETING AT QUEBEC, P.Q., JANUARY, 1916.

HON. J. E. CARON, MINISTER OF AGRICULTURE.—In complimenting those who had succeeded in winning prizes Mr. Caron commented on the improvement in the quality and purity of the seed shown at this exhibition over that of former years.

SELECTION OF SEED.

(By G. H. Clark, *Seed Commissioner, Ottawa*.)

The use of home-grown seed by farmers of Quebec was advised and a warning given against using western feed oats for seeding purposes. The greatest trouble from the latter was from noxious weed seeds. Farmers were also enjoined to grow more Clover Seed and to keep their Clover Fields free from weeds in order to produce a clean article.

LIME IN AGRICULTURE.

(By H. M. Nagant, *Oka, Que.*)

The nature, action and importance of lime in agriculture was discussed at considerable length by Mr. Nagant. Without lime in the soil it was difficult, he said, to build up the vegetable matter. In Quebec a good deal of the soil is deficient in Lime and he believed more attention should be given to this important problem.

MR. J. A. SIMARD, QUEBEC, P.Q.—Mr. Simard commented on the exhibits displayed at the fair, pointing out both the virtues and defects found. He dealt with these on the standpoint of suitability of variety, purity of variety, presence of seeds of weeds and of other cultivated plants. He referred to the great importance of a fanning mill and urged all farmers present to familiarize themselves with this machine. The speaker read the following note from Prof. Murray, who judged the exhibit:

"The display of Registered Seed while small was very creditable to those who exhibited. Most of the sheaf exhibits were well selected and tastefully displayed, but a lack of care was evident on the part of some in not adhering closely enough to a distinct type. In one or two instances the varieties being operated with are of doubtful value. The threshed grain was not so good on the whole as the sheaf exhibits. A few impurities, consisting of other kinds of grain, showed the necessity of exercising the utmost care in threshing. The growers of registered Seed would do well to remember that in not keeping the quality of their product up to the highest standard they reflect on the whole membership of the Association. By selling a poor grade of seed one year a member can do the Association a harm that to undo would require many years of painstaking effort."

CLOVER AS A FERTILIZER.

(By A. T. Charron, St. Hyacinthe, Que.)

An excellent paper on the great importance of Clover as a fertilizer was submitted by Mr. Charron, Director of the Provincial Chemical Laboratory, at St. Hyacinthe, Que. Mr. Charron stated that of all means available for improving the productive capacity of our soils he did not know of any which could excel the importance of Clover. Clover exercises a double influence by affecting both the physical characteristic of the soil and the chemical composition. He urged the farmers present to utilize this important crop more and not to be afraid to sow enough seed.

MEETING IN ONTARIO, GUELPH, DECEMBER, 1915.

Dr. C. A. Zavitz of the O.A.C., Guelph, acted as chairman and referred briefly to the work being done in the province by the C.S.G.A. and by other agencies working for the improvement of field crops.

POTATOES DISEASES.

(By W. A. McCubbin, St. Catharines, Ont.)

In discussing the manner in which disease attacks plants in general, the speaker referred to the following Potato diseases as being the most troublesome in the order mentioned: Late Blight, Common Scab, Early Blight, Blackleg, Dry Rot and Wilt, Rhizoctonia, Leaf Roll and Curly Dwarf. The operations that might be followed to grow a clean crop of potatoes are summarized as follows:

1. Pick over the seed, discarding tubers which show Dry Rot, purplish discolorations (these are likely to be dormant Late Blight), Scab and other suspicious features.

2. Soak the seed in corrosive sublimate, 1 lb. in 200 gals., for three hours. Spread out to dry, and when dry cut up into sets. This treatment frees the tubers from Scab, Rhizoctonia, Dry Rot Spores, etc.

3. In cutting sets first take a slice off the stem end. Wilt and Blackleg will show here as discolorations, and these diseases can be practically eliminated at this stage of the work.

4. Plant in as clean a soil as possible, preferably on acid soil that has had no potatoes on it for several years. Where possible use commercial fertilizers instead of barnyard manure.

5. Spray well three or four times with Bordeaux, beginning about the first of July. This will protect from Early and Late Blight.

6. Rogue the field during the summer at least once, and preferably twice. This is usually done in any case to eliminate plants of other varieties, and this work may be extended to include the removal of all cases of Leaf Roll, Curly Dwarf, Blackleg, Mosaic.

For formulae and detailed instructions regarding the sprays and chemicals to be used consult the bulletins of the Central Experimental Farm, Ottawa, and those of the Ontario Agricultural College, Guelph.

POTATO GROWING.

(By Herman Goltz, *Bardville, Ont.*)

Mr. Goltz dealt briefly with some of his experiences in the growing of seed potatoes. He stated that he preferred to grow potatoes after a Clover crop which is ploughed under in September and manured well. The last thing in the Fall the ground is ploughed. In the Spring as soon as dry enough it is disced. Then at intervals the land is harrowed with a drag harrow to kill weeds and preserve moisture. The potatoes are planted in drills 28 inches apart and 5 inches deep. His experience had shown that selecting the seed plays a very important part in successful potato growing. When digging potatoes each hill is dug separately so that a selection of particularly good hills may be made and these selected hills laid away for next year's planting. The Early Rose and Empire State Potatoes had been grown on the farm for 23 years, during which time considerable improvement had been effected, by continuous selection. The potatoes are stored on a side hill where the soil is sandy and there is good drainage.

MR. ALEX. LAMONT, MT. BRYDGES.—Mr. Lamont dealt briefly with the seed potato industry as it is carried on in his section. The soil is a sandy loam specially suited to the production of a clean, smooth-skinned potato. The variety grown most extensively is the *Dooley*, a white, oval, smooth variety. This sort has been grown in the locality for many years, during which time it has greatly improved in quality and yield. In selecting hills for the following year's planting he tried to give some attention to the character of the vines. He believed that those which grow stalky and more bushy than others as a rule resist disease better than those which lie on the ground. Mr. Lamont emphasized the importance of spraying with Bordeaux Mixture to prevent Blight.

NORTH GOWER BANNER OAT SEED CENTRE.

(By A. J. Craig, *North Gower, Ont.*)

This Centre was first started in 1913, when L. H. Newman, Secretary of the Association, addressed a meeting of farmers in the District. Since that day the work has steadily advanced and has proven both remunerative and instructive. Owing to the higher price obtained for the seed produced greater attention has been given to such matters as treating the seed for Smut and in cleaning the product.

GROWING ENSILAGE CORN IN EASTERN ONTARIO.

(By T. G. Raynor).

Ten years ago the varieties of Corn mostly grown for ensilage purposes were large sappy sorts, such as Mammoth Southern and Red Cob Ensilage. To-day almost the reverse is the case, as farmers now demand sorts which will almost mature before frost. Where formerly corn was purchased shelled, a considerable proportion is now bought on the cob, as experience has shown that this is the safer method.

Until within the past few years corn was grown largely in drills, but now planting in hills is more commonly practised, as this facilitates cleaning the land to better advantage.

More farmers are now paying attention to the germination of their seed corn than formerly. Of the common Flint varieties, Longfellow is about the earliest, Salzer's North Dakota coming next and Compton's a little later. The speaker strongly advised the use of one-third Flint Corn to two-thirds of Dent varieties planted separately. Under some conditions, however, they may be mixed together. This applies particularly when the land is very clean and the planting can be done in drills.

MEETING OF MEMBERS RESIDENT IN MANITOBA.

Agricultural College, Winnipeg, Man., February 15th, 1916.

WORK OF THE C. S. G. A. IN MANITOBA.

(By Mr. J. H. Bridge, M.A.C., Winnipeg, Man.)

The origin and development of the work of the Association in the Province was dealt with at considerable length by Mr. Bridge, who personally has taken a keen interest in the work. The membership in the province has not increased very materially during the past 12 years, but the speaker believed that with the present arrangement the number of active operators would likely increase considerably during the next two or three years.

BOYS' AND GIRLS' CLUBS.

(By Prof. T. J. Harrison, M.A.C., Winnipeg),

That the success of any movement in agricultural education depends largely on the interest aroused in the boys and girls was clearly brought out in an excellent address by Professor Harrison. In view of this fact the speaker believed it to be incumbent upon the members of the Association to encourage in every possible way a greater interest in this important question. Boys' and girls' clubs and the work of the Association in Manitoba were dealt with briefly and reference was made to the fact that these clubs were giving a good deal of attention to the matter of seed selection.

Professor Harrison then submitted a report on the work of the Association in the province. Reference was made to the organization of the so-called "Manitoba Seed Growers' Association," for the purpose of looking after the interests of members in the province. The work being done by the district representatives in the province was alluded to and the opinion expressed that these officers would very soon give a good account of themselves in this field. It was also believed that the teachers in the high schools throughout the province would prove a big factor in the forward march of the "Good Seed" movement. The encouragement and assistance rendered by the Experimental Farm at Brandon was also referred to.

THE CORRECT VALUE OF HEAD SELECTION.

(By W. T. G. Weiner, Morris, Man.)

After showing how selection in general operates in improving varieties of field crops the speaker stated that two main methods of selection are practised by plant breeders, namely, mass selection and individual selection. Mass selection consists of continuous selection from the best each year, being based on the Darwinian idea that selection in this way produces a cumulative effect. In individual selection the

single plant is made the starting point. A number of superior plants are selected and the seed obtained sown separately in order that the progeny may be studied and the best propagated.

Mass selection has been carried on since 1907 by the speaker's father, Mr. John Weiner, in Red Fife Wheat. The general crop at the beginning was badly mixed. This caused a considerable loss in yield through the unequal ripening of the crop. By mass selection as practised by the C.S.G.A. he was able to eliminate many of the inferior types and to increase the yield somewhat.

In undertaking selection work the speaker referred to a number of factors of first importance which should be taken into consideration. In the first place the operator should have an ideal plant fixed in his mind and this ideal should not change too often. Selections should be made from plants growing under normal conditions. Those growing around the margins of the field should be avoided. All weeds should be removed from the seed plot in order to give the plants a fair chance. The important aims in selection work are:

1. To maintain the purity of the sort.
2. To increase the uniformity of ripening.
3. To increase the yield.
4. To increase disease resistance.
5. To improve on the quality and colour in the grain.
6. To improve the stiffness of straw.

Many other points might be considered, but the busy farmer is most concerned in maintaining a fair standard of excellence, and this he can accomplish without a great deal of extra work through the system adopted by the Association.

CULTURAL METHODS IN PURE SEED PRODUCTION.

(By W. C. McKillican, Brandon, Man.)

The speaker emphasized the great importance of proper methods of handling soils when attempting to produce pure seed. The finest work in selecting seed could be brought to naught through injudicious work in the handling of the land. The soil should be handled in order to prevent noxious weeds and foreign grain from contaminating the crop. The aim should also be to have the soil in as finely a pulverized condition as possible in order to liberate plant food and to permit the most perfect development of the plant and seed. In this work attention should be given to the previous cropping history. The most desirable land for pure seed production is the virgin prairie. On old farms, where the land is all in use great care must be exercised, since grain grown after grain is likely to give trouble in the way of impurities. In the West the most common methods of cleaning the land for seed growing is by the summer fallow, by hoed crops or by hay crops. The speaker believed the seeding down method to be the most effective way of insuring purity. The weeds whose seeds are most difficult to remove from seed grain are annuals, such as Wild Oats and Wild Buckwheat. A single year of summer fallow or hoed crop is not always effective in getting all the seed of these weeds that are in the ground to grow. They come up the following year and form dangerous impurities in the seed grain. Where land is seeded down for two or three years many of these weed seeds decay in the ground. The following crop, consequently, is freer from weeds than any other crop except that grown on Virgin Prairie. The summer fallow, on the other hand, is likely to be more effective than is a hoed crop in so far as the control of weeds is concerned, unless the latter crop is very carefully hoed.

With regard to quality of grain the speaker believed there can be no doubt but that sod land produces a harder, more uniform type of wheat than does summer fallow in seasons of average or abundant moisture. In dry seasons the summer fallow will produce a plumper berry, but when moisture is plentiful there is a great danger of summer fallow crops lodging and producing grain of very inferior quality.

With regard to profits, Mr. McKillican believed that the summer fallow is without doubt the most expensive method of preparing the land. Experimental results have shown clearly that Wheat after either Hay or Corn is more cheaply produced than after fallow.

The speaker believed that the combination or rotation of the crops mentioned as a preparation for seed grain would probable be most profitable. The Hay crop should come first, then the corn planted on the sod. This gives a longer period of cleaning and gives two methods of eradicating weeds. It produces crops while the cleaning process goes on and if cultivation were conducted properly the grain crop that follows should equal in purity, yield and quality anything that might be grown. In order that the grower may not have to worry each year in figuring out how he is to get a clean piece of ground on which to grow his selected seed, he should decide definitely on a rotation. This rotation need not include the whole of the farm, but should certainly include a part of it and should provide for the desired sequence of crops. He should then divide the area into divisions suited to the rotation. Once such a system has been established the proper preparatory crops for seed production will recur automatically on the different fields.

In handling sod land the following method has proven successful at the Experimental Farm. The Hay is cut from July 1st to 10th, and as soon as harvested the land is ploughed. The ploughing is done moderately deep (4 or 5 inches). The land is disced frequently enough during the remainder of the season to prevent the grass from getting a start.

Where summer fallowing is the cleaning method used it is of the greatest importance that the ploughing be done early. Where possible either skim ploughing or discing in the Fall or early Spring should be practised to cause weed seeds to germinate. Cultivation throughout the summer must be thorough and the land kept "Black." Where the grower is fighting such weeds as Sow Thistle or Canada Thistle, it is found advisable to plough a second time during the summer. Where Wild Oats or other annuals are troublesome, it is best to plough only once, the surface being kept bare by persistent cultivation or pasturing. The tramping of the land by stock in pasturing induces more complete germination of those weed seeds lying near the surface than is likely to occur in a loose cultivated soil. This method, however, is not so effective in storing moisture as is a bare fallow.

THE MARKETING OF REGISTERED SEED IN WESTERN CANADA.

(By John Turnbull, Steel Briggs Seed Co., Winnipeg).

In building up a satisfactory market for Registered Seed the speaker emphasized the importance of offering seed which is attractive in appearance and which shows its breeding. While one cannot control the destiny of the seed he sells, yet by supplying seed of the above sort the appreciation of the customer is bound to follow. This arouses in him a desire to produce as good seed on his own farm. He allots it the best piece of land and gives it special attention throughout the season. A superior crop is its own advertisement—not only gratifying to the grower but known and talked of among the neighbors. This establishes confidence of old customers and makes new ones in an ever widening market.

With regard to preparing the seed for market the speaker could see no reason why the grower could not dispose of his seed directly, providing he has the machinery and temperament. If these features are not present it would be better to market the crop through a dealer. He advised that under no circumstances should seed be shipped in bulk, thereby risking the chance of contamination or loss of identity which this might involve.

Speaking of the matter of price he stated that the value of good seed could hardly be over-estimated and he believed that Registered Seed has still a long way to go before it can be considered too high.

THE PRODUCTION OF GOOD SEED.

(By Prof. John Bracken, Agricultural College, Saskatoon, Sask.)

In defining what is really meant by good seed the speaker emphasized the importance of getting a proper start by choosing the right variety. In making this choice one should consult the nearest Experimental Farm where varieties are tested out side by side and he should also consider his own experience with different varieties, if he has had any, as well as the experience of his neighbors. None but standard, well proven sorts should be grown. The grower should not stop, however, with the choice of variety, but should see to it that he has the best strain of that variety. Experience has shown that not all Marquis or Red Fife is well bred, that is, pure as to type. They contain non-typical forms. These should be eliminated and the purity of the stock maintained. The question of cleaning seed involves the question of crop management, tillage of the land, rotation, fanning mills, &c. Maintaining the purity of seed is one of the greatest difficulties with which the seed grower has to contend. Impurities occur in many ways. Some of the more common methods by which foreign plants gain a foothold are by volunteer plants from the previous crop, the drifting of the soil, the itinerant threshing machine, the neighbors' stock, the grainery and the fanning mill. Each single cause of admixture can easily be controlled. Unfortunately in Western Canada many of the best growers have to suffer through the negligence of neighbors. The speaker believed that weeds are gaining a foothold and that the cost of growing crops is increasing. He believed that the present situation, difficult as it is, may eventually be controlled by adopting a more suitable rotation of crops and in keeping more live stock. In advertising good seed he believed that the field competition is the best place to demonstrate the value of Registered Seed.

